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(54) MOLTEN CARBONATE FUEL CELL

(57) Abstract:

PURPOSE: To increase corrosion resistance by using an alloy obtained by containing a specified amount of aluminum in iron, chromium, or nickel as a material in a part in contact with molten carbonate or its vapor in a molten carbonate fuel cell.

CONSTITUTION: A molten carbonate fuel cell is operated by using hydrogen as fuel and air as oxidizing agent at high temperature. An alloy containing 1@70wt%,

preferably 5@30wt% aluminum in iron, chromium, or nickel is used as a material of cell mount, bipolar plate, active material gas distributer, and active material gas supply pipe which are in contact with molten carbonate or its vapor. Since aluminum reacts with alkali metal carbonate to form an oxide such as lithium aluminate, cementation and corrosion resistance are increased. Cell performance is keep high over a lengthy period of time.

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